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Bearing press height extension adaptor

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BEARING PRESS HEIGHT EXTENSION ADAPTOR

BACKGROUND OF THE INVENTION

5 This invention relates to a device (hereinafter referred to as an ("adaptor assembly") which can be fitted to a pressing device (hereinafter referred to as a ("bearing press") used for the removal or fitting of press fitted components such as bearings, gears, pulleys, pins, bushes and seals.

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Conventional bearing presses comprise a support frame having a base section, two spaced apart elongate side members extending upwards from the base section, and a fixed mounting member to which is connected a hydraulically operated pressing device.

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Attached to the elongate side members of the support frame by pins or bolts are two parallel support members which can be adjusted in height. However, the process of height adjustment of the parallel support members can be very time consuming.

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There are also in use, some bearing presses which do not have a means of adjusting the height of the support members which provide a means of supporting the object to be worked on. These are restricted in use to objects which can only be placed between the point of pressure application of the pressing device and the support members.

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OBJECT OF THE INVENTION

30 It is the object of the present invention to reduce the disadvantages of bearing presses as described above.

STATEMENT OF THE INVENTION

35 According to the present invention, there is provided an adaptor assembly which can be fitted to a bearing press into which objects requiring removal or installation of press fitted components such as bearings can be placed and supported whilst pressure is applied from the pressing device, which

adaptor assembly includes a means for supporting objects at a range of heights relative to the bearing press.

5 It is preferred that the adaptor assembly includes a means for gripping and thereby supporting objects, a carrier for the gripping means, and a support frame which can support the carrier at a range of different heights relative to the bearing press.

10 It is preferred that the support frame include a means that enables the adaptor assembly to be suspended from the bearing press.

15 It is preferred that the adaptor assembly be easily mounted onto and removed from the bearing press without the use of bolts or other fixing means.

20 According to the present invention there is also provided in combination the above described adaptor assembly and bearing press.

The present invention can be embodied in many ways without departing from the spirit and scope described above.

25 BRIEF DESCRIPTION OF DRAWINGS

FIG 1 is a perspective view of a small portable bearing press mounted in a vice.

30 FIG 2 is a plan view of the support plates carrier of the adaptor assembly.

FIG 3 is a front elevation view of the frame of the adaptor assembly.

35 FIG 4 is a side elevation view of a small bearing press mounted in a vice with the preferred embodiment of the adaptor assembly fitted on the bearing press support arms and showing

a component supported on the support plates in the carrier assembly.

DETAILED DESCRIPTION OF THE INVENTION

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The preferred embodiment of the adaptor assembly shown in FIGS 2, 3 and 4 is adapted to be used with a bearing press such as shown in FIG 1 for working on an object, generally identified by the number 8 in FIG 4, which has a component 9 such as a bearing mounted on a shaft 10.

In general terms, the adaptor assembly includes a support plate carrier 4 and a support frame 31 which can support the carrier at a range of different heights relative to the bearing press.

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The support frame 31 of the adaptor assembly as shown in FIG 3 includes four spaced apart vertical members 1 connected at the top to tie members 3 at the front and rear and to the members 2 at the sides and at the bottom to tie members 5 at the front and rear.

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The tie members 3 having notches 4 in the bottom edges adjacent to the inside edges of the vertical members which provide a means for suspending the adaptor assembly 12 from support arms 3 of the bearing press 1 as shown in FIG 4.

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Between the front and rear vertical members 1 on both sides are connected several horizontal carrier support members 6 as shown in FIG 3 for the purpose of supporting the support plates carrier shown in FIG 2. The carrier support members 6 as shown in FIG 3 are arranged in pairs; one member of each pair being on either side of a central lengthwise extending space defined by the frame and each pair being spaced apart so as to provide a range of vertical levels at which the support plates carrier 4 can be mounted as shown in FIG 4. The carrier support members 6 are horizontally parallel to the top edge of the tie members 2 shown in FIG 3 so that when the adaptor assembly is fitted onto the bearing press support arms 3 shown in FIG 4, the carrier support members 6 are

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horizontally parallel to the top edges of the bearing press support arms 3 as shown in FIG 4.

5 The support plates carrier 4 of the adaptor assembly in the preferred embodiment shown in FIG 2 includes a generally rectangular frame formed from two spaced apart side plates 41 and end plates 42. The end plates 42 which have threaded holes approximately centrally located to accept threaded adjusting bolts 43. The side plates 41 have recessed rails 44
10 on which are slidably mounted two support plates 45 which can be adjusted inwardly from either end by means of the adjusting bolts 3. The support plates 45 include curved gripping surfaces 47 for contacting objects to be worked on by the bearing press. The support plates carrier 4 is constructed so
15 that it can be positioned on any one of the carrier support members 6 of the support frame 31.

20 The preferred embodiment of the adaptor assembly is shown in use at FIG 4 positioned on a bearing press 1 that is mounted in a vice 2. The adaptor assembly is mounted centrally in relation to the bearing press pressing shaft 11 by locating the notches 4 of the support frame 31 of the adaptor assembly to be received by the support arms of the bearing press.

25 The support plates carrier 4 shown in FIG 4 is mounted on a pair of horizontal carrier support members 6 of the adaptor frame at a level of height suitable for the object to be worked on, the object being generally identified by the number 8 in FIG 4. The object 18 is placed in the adaptor assembly
30 with the bearing component 9 supported by the support plates 45 which are adjusted inwardly using the adjusting bolts 7 located at either end of the support plates carrier 4 to a position where the bearing component 9 is securely gripped by both support plates 45.

35 Pressure can then be applied by means of the pressing shaft 11 shown in FIG 4 to the shaft component 10 which can then be pressed into or through the bearing component 9.

The above described invention thus overcomes a major disadvantage of smaller sized bearing presses by providing a greatly increased range of height adjustment which allows much longer objects to be worked on than would otherwise be the case.

The preferred embodiment of the invention has been designed for use with a small bearing press as shown in FIG 1 which has no means of adjusting the height of the support arms 3.

10 However, it can be easily modified to be used with a conventional bearing press as described previously to provide a means of faster and easier height adjustment without departing from the spirit and scope of the invention.

ABSTRACT

5 A height extension adaptor assembly which can be fitted to a bearing press to provide a convenient means of support for an object requiring the removal or fitting of a component such as a bearing using a pressing device.

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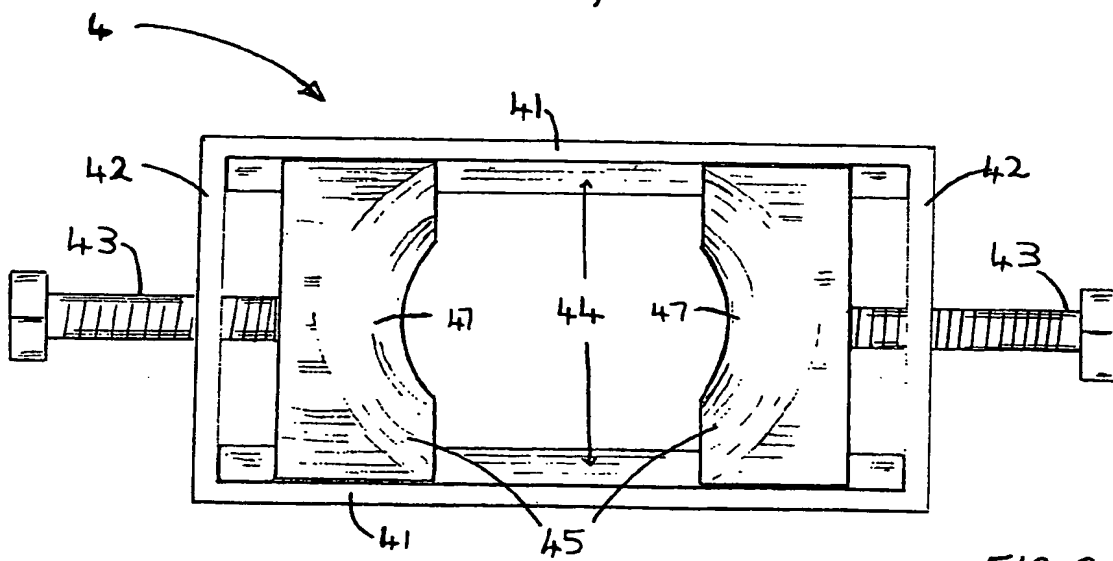
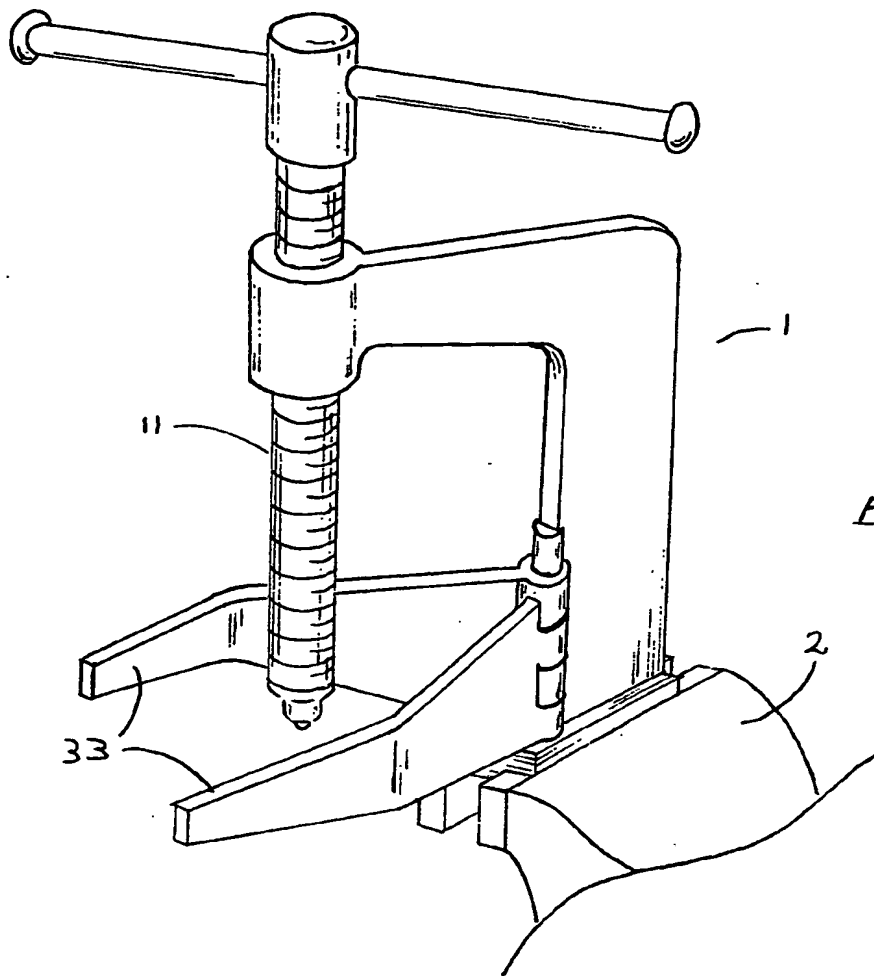
1. An adaptor assembly which can be fitted to a bearing press into which objects requiring removal or installation of press fitted components such as bearings can be placed and supported whilst pressure is applied from the pressing device, which adaptor assembly includes a means for supporting objects at a range of heights relative to the bearing press.
2. The adaptor assembly defined in claim 1 includes a means for gripping and thereby supporting objects, a carrier for the gripping means, and a support frame which can support the carrier at a range of different heights relative to the bearing press.
3. The adaptor assembly defined in claim 1 or claim 2 wherein the support frame includes a means that enables the adaptor assembly to be suspended from the bearing press.
4. In combination, a bearing press and the adaptor assembly defined in any one of the preceding claims coupled to the bearing press.

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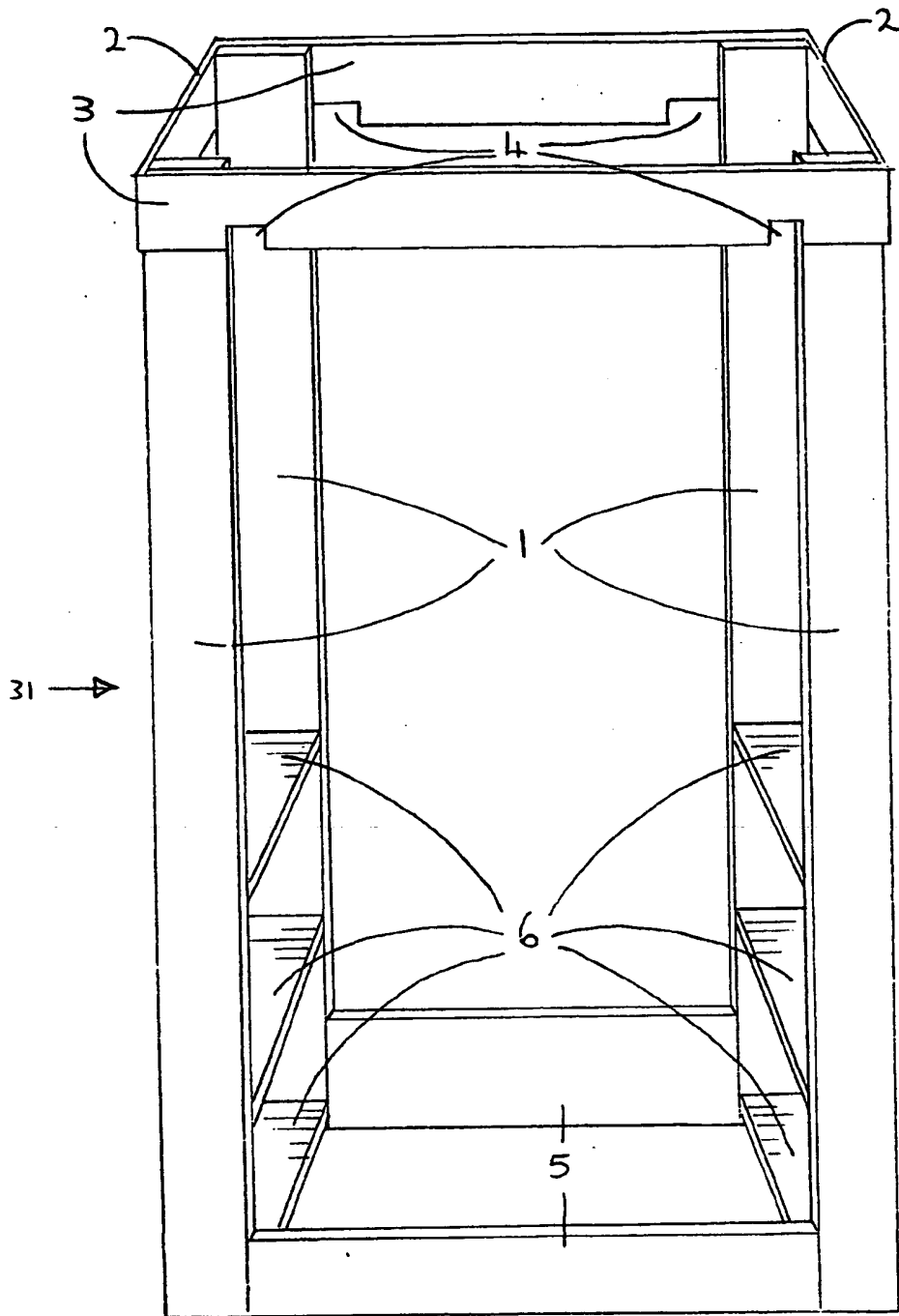


FIG 3

9 000 3306

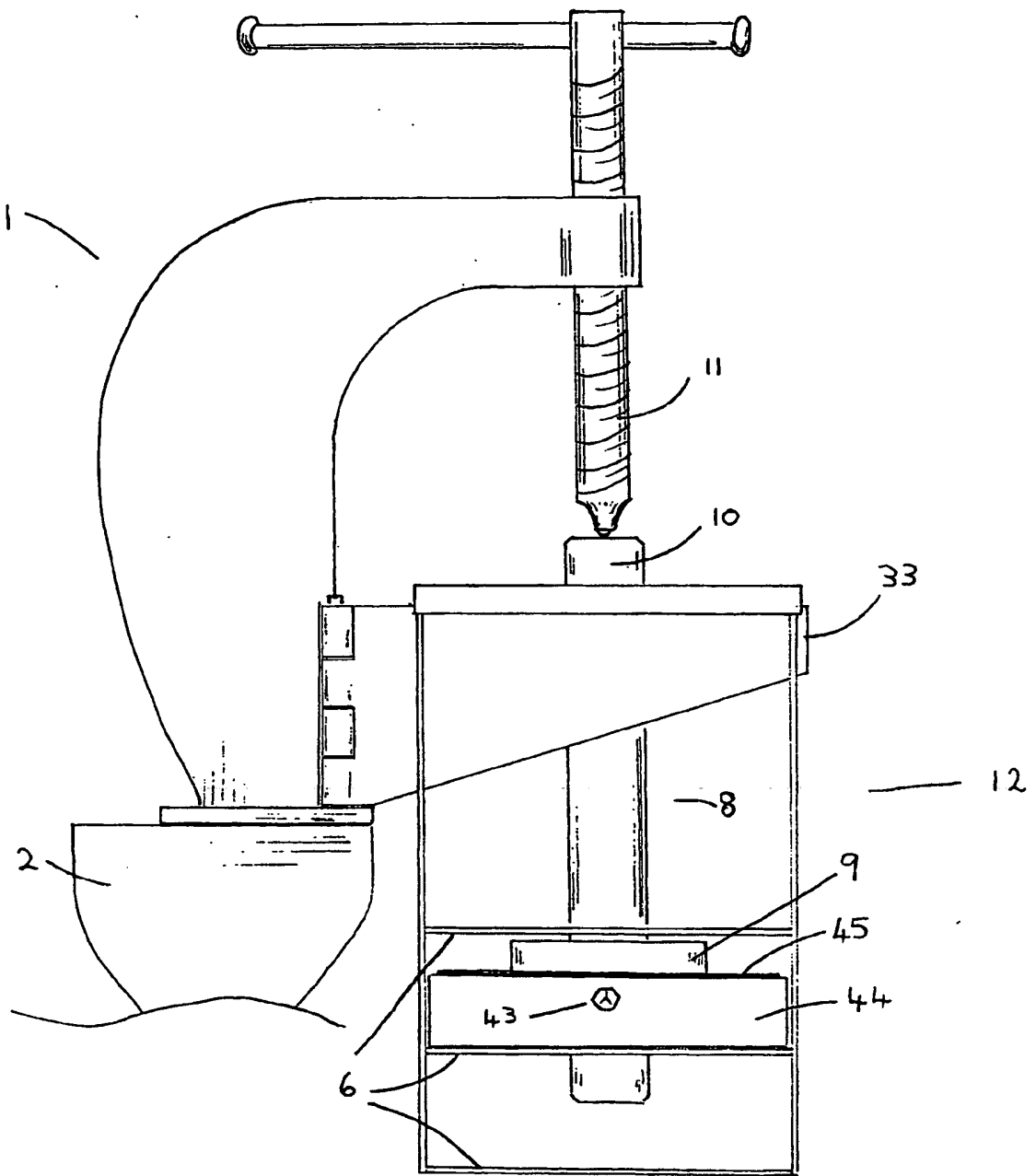


FIG 4